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ACME

Tribal dignitaries of Ghana's Ashanti section proudly bear their official staffs

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Morocco, Sudan, Tunisia, and the Union of South Africa as a sovereign nation. It will become the first Negro nation within the British Commonwealth of Nations.

Ghana's independence marks the end of a long road, particularly for two leaders. One is the Prime Minister, Kwame Nkrumah, who was educated in America and Britain and who fortified pleas for independence with quotes from Abraham Lincoln. The other is the British governor, Sir Charles Arden-Clarke, who has worked hard to set the colony free and make it an equal partner with Britain.

The people of Ghana—some 4,500,000 of them—are more divided in their feelings about independence. More than half live in the coastal section, old Gold Coast Colony. For years they have been in contact with European merchants and have picked up an awareness of white man's politics. Since coming close to self-government, they have carried on their parliamentary business with vigor and pride. In five years they nearly tripled the number of schools and boosted the standard of living. But in the interior sections, Ashanti and the Northern Territories, tribal customs hang on. Here Prime Minister Nkrumah counts most of his opposition, for these clannish, up-country people fear that a strong central government will dominate local rights, though Ghana's constitution safeguards them.

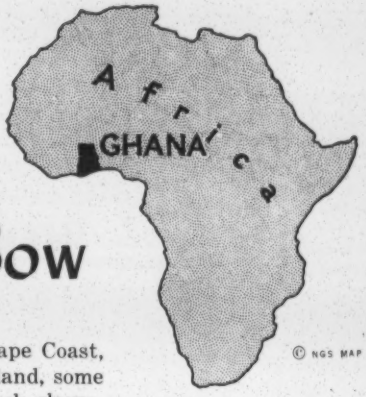
The new nation, larger than England, Scotland, and Wales combined, earns its living mainly by supplying more than half the world demand for cocoa. The story goes that the first seeds were smuggled into Gold Coast from the Spanish island of Fernando Póo. It soon replaced gold as the chief export. Gold still comes from Ghana, along with industrial diamonds, timber, and manganese. There are small iron deposits, but no coal or oil.

KEYSTONE

Sacks marked "Gold Coast Cocoa" thump aboard battered surfboats on their way to offshore ships

UMI

Introducing Africa's Ninth Independent Nation



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Ghana Takes A Bow

EUROPEAN traders once beached vessels at Cape Coast, below, on the African shore line. They struck inland, some to search for yellow gold, others to round up black slaves.

This land, a rectangular divot on the underside of Africa's hump, used to be a British colony, the Gold Coast (GSB Jan. 11, 1954). But starting Wednesday it becomes Ghana, a fully independent nation and partner in the British Commonwealth of Nations. It takes its new name from an ancient west African empire which supposedly flourished for nine centuries. Vice President Nixon will be present at Accra, the coastal capital, when the Union Jack comes down and Ghana's new flag takes flight. He will see Ghana's good-humored, friendly people accept control of their destiny.

In fast-changing Africa, Ghana will join Egypt, Ethiopia, Liberia, Libya,

U. S. AIR FORCE

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Meet The

Lapps

JEAN AND FRANC SHOR, NATIONAL GEOGRAPHIC STAFF

YOU might meet a sturdy fisherman like this some 200 miles north of the Arctic Circle in any of four countries—Norway, Sweden, Finland, or Russia. He is one of some 34,000 Lapps in that belt of northern Europe called Lapland.

Most live in Norway, only a few are in Russia. But Finland's Lapps (like this fisher) have been affected least by modern civilization. They live in a rocky, thin-soiled land of stunted pine and birch forests, reindeer moss, rivers, and lakes. Thanks to an offshoot of the Gulf Stream which tempers their Arctic climate, they can grow rye, barley, and potatoes, as well as harvest fish and herd reindeer. Modern-minded Finns busily exploit water power and timber in Lapland. But the wilderness spreads close at hand. There, Lapp settlements house the strange, nomadic people while their reindeer herds find grazing.

Lapps have an Asian look, are usually very short, but agile and strong. They have much in common with American Indians. Until recently, they claimed their shamans could foretell the future and cure the sick. Like Indians, Lapps live close to nature and know its ways. Many are utterly dependent on reindeer, using the animals not only for food, but for clothing, housing, and tools. Reindeer pelts provide Lapland's four-cornered "hat of the four winds." Stretched over poles, skins form a tepeelike shelter where families live while their animals shift grounds. Reindeer sinews make Lapp thread. Bones are carved into tools and household utensils.

The 20th century is reaching out, even to these primitive Lapps. Many still wear colorful costumes and, during the long night of winter when the sun disappears for five months, they still visit each other in reindeer-drawn canoelike sleighs, or pulkas. But they sometimes add a modern cap to reindeer-skin dress.

Jean and Franc Shor, describing Lapland in the August, 1954, National Geographic Magazine, tell of their first view of a Lapp, seated before a pile of metallic objects spread on a reindeer skin. Knowing that some metals were supposed to be supernatural, according to ancient Lapp superstition, the Shors wondered if he were a shaman preparing a ritual. It turned out that he was trying to fix the carburetor of his balky outboard motor.—E.P.

UMI

KURT LUBINSKI

FOR WHOM THE DRUMS BEAT—Solemn Ashantis mark a tribesman's death with drums, musket shots

Britain and Ghana, together, plan to turn huge bauxite deposits into aluminum by harnessing the Volta River, which winds southward through the country. Enormously costly, the Volta River scheme would change Ghana's entire economy. The dam would create a 3,500-square-mile lake to feed irrigation canals. It would support a fishing industry and supply quantities of power.

Much of the country is extremely fertile. A belt of tropical rain forest, north of the coastal plains, produces most of Ghana's cocoa and much of its timber. Almost any tropical crop will grow in this rich jungle soil. Though Ghana is poor by European standards, there is little hunger among a people that have only to plant a seed and then, figuratively speaking, stand back.

As Ghana steps forth, all of Africa will watch its progress. For in this once-dark continent, any nation attaining freedom becomes a "guinea pig" in the eyes of other colonies and colonists. The people of Ghana, confident of themselves and tolerant of others, will try to prove that their dose of liberty is a health-giving tonic.—E.P.

THE WORLD'S LONGEST RIVERS

River	Length in Miles	River	Length in Miles
1. Nile, Africa	4,145	11. Mackenzie-Peace, Canada	2,514
2. Amazon, South America	3,900*	12. Ob, U.S.S.R.	2,500*
3. Mississippi-Missouri, U.S.A.	3,892	13. Yenisei, U.S.S.R.	2,360
4. Yangtze, China	3,100*	14. Murray, Australia	2,310
5. Congo, Africa	2,718	15. Volga, U.S.S.R.	2,290
6. Amur, U.S.S.R., China	2,700*	16. Madeira, South America	2,100*
7. Hwang (Yellow), China	2,700*	17. Paraná, South America	2,050*
8. Lena, U.S.S.R.	2,645	18. Yukon, Canada-Alaska	1,979
9. Mekong, Southeast Asia	2,600*	19. St. Lawrence, Canada, U.S.	1,945
10. Niger, Africa	2,600*	20. Indus, Pakistan-India	1,900

** Estimate. (Figures from the National Geographic Society's Research Division as supplied to almanacs and encyclopedias.)*

NATIONAL GEOGRAPHIC PHOTOGRAPHER WILLARD R. CULVER

SKILLED GAFFER, right, snips away soft glass to form pitcher's beak

NATIONAL GEOGRAPHIC PHOTOGRAPHER WILLARD R. CULVER

GATHERER, left, collects a gob of molten glass on a long blowpipe. The puff-cheeked blower, above, is giving way to machines. But craftsmen still etch designs, using abrasive wheels.

NATIONAL GEOGRAPHIC PHOTOGRAPHER BATES LITTLEHALES

NATIONAL GEOGRAPHIC PHOTOGRAPHER WILLARD R. CULVER

Making Glass

THE ART of turning everyday materials like sand into a transparent solid material—glass—has been practiced for at least 4,000 years. Today there's no single formula for making this magic. For there are thousands of varieties of glass, each with its method of manufacture.

Here are some of the steps that are often part of this ancient craft—from "cooking" raw materials like sand, soda, borax, and boric acid (left), through the processes of gathering and gaffing, to the etching on a finished goblet (far right).

NATIONAL GEOGRAPHIC PHOTOGRAPHER WILLARD R. CULVER

THE "CHEF" above follows his recipes to fractions of an ounce. One grain of the wrong ingredient in a ton of mixture can ruin many fine glasses. He has scores of raw materials to choose from. Shoved into a roaring furnace, right, the mixture melts into glass. Furnace temperatures may be about 3,000 degrees. Huge continuous tank furnaces keep burning constantly for months.

NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL

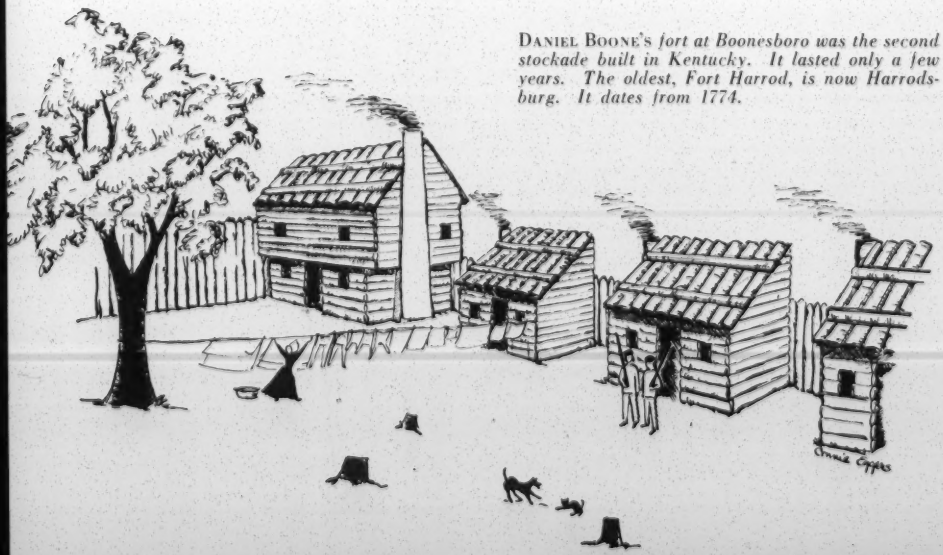
stand for a vista that includes thickly forested mountains and misty upland meadows of near-by Virginia, Kentucky, and Tennessee.

Cupped in the westernmost Appalachians, Cumberland Gap was prowled centuries ago by red men. For them, it was a natural entrance to Kentucky's hunting grounds. In 1750 Dr. Thomas Walker stumbled on this open doorway to new lands. Nineteen years later Daniel Boone pressed through the Gap, viewed the Kentucky countryside, and vowed to live there.

249 NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL

To open the land with colonists, Boone had to build a road. He started it in 1775, plunging it through Cumberland Gap and following the old Indian trail—the Warriors Path—for some fifty miles before branching westward along a buffalo trace. Boone's road makers left that, too, hacking through thick forest and cane until suddenly they broke out into the open and gazed on rolling plains, waiting for the seed of settlers.

Boone lived to see Kentucky get too civilized for his backwoods tastes. He told his wife, "Old woman, we must move. They are crowding us." He took her off to Missouri where he died. But his gravestone, above, is at Frankfort, Kentucky.



DANIEL BOONE'S *fort at Boonesboro was the second stockade built in Kentucky. It lasted only a few years. The oldest, Fort Harrod, is now Harrodsburg. It dates from 1774.*

"Daniel Boone Coming Through Cumberland Gap." Painting by George Caleb Bingham

WASHINGTON UNIVERSITY, ST. LOUIS

Wilderness Road

First chapter of a three-part story on America's westward expansion

THERE was nothing but grimness for those who followed Boone's footsteps. Worry lined their faces. The soaring mountains that shouldered the Wilderness Road were bad enough. Add the torments of violent weather and the constant fear that howling Indians might appear at any turn of the abominable track.

These were some of the burdens of the pioneers. They groped by foot, wagon, and horseback from New Jersey, New York, the fat counties of Pennsylvania, and tidewater Virginia into Kentucky—the fabulous land that Daniel Boone had "esteemed a second paradise." Some sought riches, others adventure. Most wanted a little piece of ground in the new earth beyond the hills.

Their great trek came largely between 1775 and 1800. They might scarcely express what they endured. But the articulate John Randolph told what drove them along. "In a few years more those of us who are alive will move off to Kaintuck or the Mississippi, where corn can be had for six pence a bushel and pork for a penny a pound. I do not wonder at the rage for emigration."

The route they followed, the Wilderness Road, was exhausting and perilous. Land-hungry Virginians could claw their way to it over the barrier of Blue Ridge Mountains. But northerners followed its full length. One recorded an 826-mile trek from Philadelphia to the "Falls of the Ohio" (Louisville). For those who approached through Pennsylvania the road started at Wadkins Ferry on the Potomac River, then followed the Shenandoah Valley (GSB Feb. 18, 1957) past the sites of modern cities and towns—Winchester, Staunton, Lexington, Bristol.

And so to Cumberland Gap. There, they could take in a marvelous view—if any had the energy left to savor it. An abutting 3,000-foot pinnacle formed a grand-

JOHN SCOFIELD, NATIONAL GEOGRAPHIC STAFF

HAITI'S PEACEFUL CRISIS

By John Scofield

Special dispatch to the Geographic School Bulletins *from a National Geographic field reporter and photographer*

IF anyone should ask me if I've seen a revolution, I can now answer "Yes." Last month I walked the streets of Haiti's tropical capital, Port-au-Prince, in the midst of one. But instead of rifle fire and bloodshed I saw only swarms of light-hearted, dark-skinned Haitians swirling happily along streets and market places (above) or forming into knots to discuss their problems. All about me were shuttered shops, locked offices. A new method of revolt has proved its power in this Caribbean island nation. It is the general strike.

The all-Negro, French-speaking republic of Haiti was born in a blood bath when slaves turned on their French masters in 1791. Since then, its chief executives have sometimes come and gone at a giddy pace, with changes often accompanied by clash of arms. But last December, when feeling against President Paul Magloire reached the boiling point, Haitians tried a new trick.

They simply stopped work. Shops closed. Gas stations locked their pumps. Everything on wheels, including Port-au-Prince's dime-a-ride jitneys, quit running. Food ran out, but the people's determination didn't. Within three days the strong man, Magloire, had named a successor to serve until the April elections and had boarded a plane for exile.

Haiti's provisional president, Joseph Nemours Pierre-

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

UMI

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

BEYOND THE GAP, the road crossed Kentucky's Cumberland River near this spot

His road passed sites of Pineville, London, Hazel Patch, and so on to Lexington.

A few records bring back the grim hardship of journeying "Boone's Trail." A traveler of 1775 notes, "We all pact up and started crost Cumberland gap. . . . We Met a great maney peopel turned Back for fear of the indians but our Companey goes on. . . ."

His company struggled across rushing streams, drenched by almost constant rain. They slipped past Indians, chased a wolf away from one campground, saw many of their men turn back, and then, "we meet 4 men from Boons camp that caim to cunduck us . . . we camp this night just on the Beginning of the good land near the Blue lick they kill 2 bofelos this Eavening." A member of this party was Abraham Lincoln's maternal grandfather.

Not all journeys were as successful. The Cherokees acted up in 1784, murdering more than 100 men, women, and children. Those who risked the Wilderness Road in those days always went in companies, usually formed in Virginia, or, for the trip east, at the frontier hamlet of Crab Orchard, Kentucky. But as the road became more civilized, single travelers adopted it. Bishop Francis Asbury jolted back and forth between the Atlantic and the Mississippi for 40 years. Sixty times he urged his horse across the Alleghenies. Though he survived Indians, he almost fell prey to primitive wayside inns. One stopover at an unfinished house, jumping with carpenters and masons, inspired him to sum up the Wilderness Road with one succinct word—"Purgatory."

Boone would have agreed. So would all the others. But the craving for a piece of land in the paradise of Kentucky drove them through it. Only 15 years after Boone finished his road, 70,000 settlers lived in the promised land. By 1800, more than 220,000 people had swarmed west to plough the bluegrass sod.—S.H.

Next Week: The Santa Fe Trail

JOHN SCOFIELD, NATIONAL GEOGRAPHIC STAFF

Haiti, *continued*

Louis, lasted less than two months. Once again it was a general strike that forced his resignation. I arrived in Port-au-Prince just in time for this second revolution. The hot, coastal city was in a holiday mood. Taxis and cars carried on only as long as their gasoline lasted. On the tree-shaded Champ de Mars, opposite my hotel, crowds gathered and stared silently at the white National Palace.

Some gay yellow awnings marked the president's apartment in one wing. A girl in a red bandanna broke the stillness to yell at no one in particular, "If I can't eat I won't work." The girl's shout pointed up the poverty of this 10,000-square-mile nation, sharing the island of Hispaniola with the Dominican Republic. More than three and a half million people crowd it. Most are small farmers, illiterate, scratching at the slopes of Haiti's tumbled mountains to raise enough food for sustenance. Coffee, the chief export, has been slow in recovering from the devastation of a 1954 hurricane. Drought has since plagued the land. These grievances were heightened by expensive government projects. Haitians demanded a complete change first from Magloire, later (when I was there) from Pierre-Louis, Magloire's constitutional successor. That day, while I watched, uniformed soldiers of the Garde d'Haiti, carrying rifles and stubby tommy guns, formed a line and pushed the crowd back from the palace. Somehow, this show of force failed to seem particularly grim. Laughing and shouting the names of favorite candidates, the demonstrators melted away. Nowhere did I see a sign of violence. Yet it was obvious to me the people were going to get their way.

By day's end, rumors spread through Port-au-Prince that Pierre-Louis had resigned. Eventually they proved true. His place was taken by a new provisional president, Franck Sylvain. Normalcy returned quickly to the city. Streets were crowded again, but this time with shoppers. At the Iron Market (above), people thronged around the mosaic of vegetables and handcrafts.

As I write this, it is obvious that the humble townsfolk of this sunny capital will accept their new president gratefully—for just as long as he conducts himself with discretion. If he fails....

"Thees strike is a powerful theeng," a soft-spoken Haitian told me. "It ees the weapon of people who have no weapons."